April 25, 2018 Reference No. 039611

Mr. Rosauro del Rosario
EPA Project Manager/Coordinator
United States Environmental Protection Agency (USEPA) Region 5
77 West Jackson Boulevard
Chicago, Illinois
60604

Dear Mr. del Rosario:

Re: Private Well Sampling Work Plan
Himco Site, Elkhart, Indiana (Site)

Please find attached the Private Well Sampling Work Plan for the Himco Site. GHD has prepared this submittal on behalf of the Himco Site Trust for your review and approval. An electronic copy of the report is also provided for your use.

Should you have any questions, please contact me at (248) 893-3411.

Sincerely,

GHD

Douglas M. Gatrell, P.E. Alan Deal

AD/cb/73

Encl.

cc: Doug Petroff, IDEM
Michelle Lordemann, USACE
Scott Krall, Bayer
Matthew Myers

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Private Well Sampling Work Plan

Himco Site
Elkhart, Indiana

Bayer HealthCare LLC

GHD | 455 Phillip Street Waterloo Ontario N2L 3X2 Canada

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1. Introduction

1.1 Purpose

This work plan presents a plan to collect groundwater samples from private wells located near the former Himco Dump Site (Site) in Elkhart, Indiana. GHD[1] has prepared this report on behalf of the Performing Settling Defendants (PSDs), collectively known as the Himco Site Trust. The results from this sample collection and analysis will be used to determine if these wells have been impacted by arsenic dissolved in groundwater.

1.2 Background

The Himco Site is a National Priorities List (NPL) site that is being remediated pursuant to a Consent Decree (Civil Action No. 2:07cv304 (TS)) (CD). The Statement of Work (SOW), included as Appendix B of the CD, specified the Remedial Action (RA) requirements for the Site. The SOW required groundwater investigations to the east and southeast of the Site and the implementation of a Groundwater Monitoring Program (GMP). GHD prepared a Remedial Design Work Plan (RD Work Plan) (CRA, October 2008) on behalf of the PSDs that combined the East and Southeast Groundwater Investigations and the GMP into a three-phase groundwater investigation that built incrementally to address the groundwater investigation and monitoring requirements of the SOW.

The Site is a closed landfill located at the intersection of County Road 10 and John Weaver Parkway in Cleveland Township, Elkhart County, Indiana. The Site is approximately 60 acres in size, and accepted waste such as household refuse, construction rubble, medical waste, and calcium sulfate between 1960 and 1976. The landfill was closed in 1976.

The Site was proposed for the NPL in 1988 and was placed on the NPL in 1990. The Remedial Design/Remedial Action (RD/RA) is being conducted pursuant to the CD, which became effective on November 27, 2007. The lead agency for the Site is the USEPA Region 5. IDEM is the support agency.

Figure 1.1 shows the Site location. Figure 1.2 shows the layout of the Site, including property boundaries. The Site consists of two major areas: the landfill, and the 4-acre construction debris area (CDA). The CDA is located on the northern portion of seven residential properties and one commercial property that front onto County Road 10. In 2011, the PSDs relocated CDA waste to the landfill, and completed the construction of a soil cover over the landfill in 2012. USEPA approved the Construction Completion Report/Completion of Remedial Action Report (CRA, 2012) on October 31, 2012.

GHD completed quarterly groundwater monitoring between 2008 and 2011. GHD documented the results of previous monitoring rounds in a series of reports previously submitted to the United States Environmental Protection Agency (USEPA) and the Indiana Department of Environmental Management (IDEM). In accordance with the Interim Groundwater Monitoring Program Report (CRA, 2011), approved by USEPA on August 31, 2011, the GMP currently includes semi-annual

[1] On July 1, 2015 Conestoga-Rovers & Associates became GHD. For convenience, the wording in this report reflects the new name.

groundwater monitoring with annual reporting each fall. In April 2015 and August 2016, USEPA provided letters commenting on the 2014 and 2015 AGMRs, respectively. These letters authorized reductions in the parameters included in the GMP.

On September 8, 2015 GHD canvassed residences and businesses in the vicinity of the Intermediate Aquifer arsenic plume to determine the source of drinking water at the property (i.e., municipal water or private well) and to determine if any wells exist at the property. The purpose of the door-to-door survey was to determine if there is a potential for private wells to intercept the Intermediate Aquifer arsenic plume. The Himco Site Trust provided the results on the door to door survey to USEPA in a letter from GHD dated November 2, 2015. Table 1.1 is a summary of the results of the door to door survey.

2. Summary of Hydrogeology

The depth to groundwater near the Site is relatively shallow, ranging from less than 10 to 25 feet with typical depths ranging from 10 to 15 feet. Groundwater in the Elkhart area typically flows in a southerly direction. GHD conceptualizes the Upper and Intermediate Aquifers near the Site as one sand aquifer with silt/clay aquitard materials occasionally interspersed. The sand comprising the Intermediate Aquifer is generally more fine-grained than the overlying Upper Aquifer and it contains discontinuous zones of silt and clay.

Private wells near the Site range in depth and capacity. Shallow wells, approximately 30 feet deep are typically capable of meeting demand for a residential water supply. Slightly deeper wells, on the order of 100 feet deep, are capable of sustaining pumping rates up to 50 gallons per minute.

3. 2015 Survey Results

Figure 3.1 shows the area canvassed, the limits of the Intermediate Aquifer arsenic plume, the properties supplied by municipal water, the properties with private wells and the approximate location of these private wells. Table 1.1 provides a summary of the results of the door-to-door survey.

GHD visited 23 properties in September 2015. Private wells were confirmed to supply water to 11 of the 23 properties. Seven of the properties were supplied with municipal water. Five of the properties were unoccupied so GHD was unable to determine the source of the water supply.

Most of the footprint of the lobe of the Intermediate Aquifer arsenic plume southeast of the Site is in the area serviced by municipal water.

Seven of the private wells are located at residential properties on Westwood Drive. There are two other private wells on the properties immediately south of the Westwood properties, at [redacted] and [redacted]. Both of the County Road 10 properties are commercial properties and the owners indicated that the well water was not used for drinking water; but the water is used for vehicle washing. Bottled water is available for drinking. These wells are located southeast of Intermediate Aquifer monitoring wells WT120A and WT120B, which delineate

the southeast limit of the lobe of the Intermediate Aquifer arsenic plume. Since the groundwater flow direction in the Intermediate Aquifer is south, these private wells are also located northeast, or upgradient of the lobe of the Intermediate Aquifer arsenic plume at Intermediate Aquifer Monitoring wells WT106B and WT121B.

The last known source private well supplies water to two properties, 1400 Bristol Street and 1402 Bristol Street and they are located approximately 500 feet further east of the limits of the Intermediate Aquifer arsenic plume. These are also commercial properties, the wells are designated non-potable and bottled water is available for drinking.

4. Door to Door Survey and Private Water Well Sampling

Figure 3.1 shows the location of the four properties that GHD was unable to determine if they were serviced by municipal water or by private wells. GHD will attempt to contact the home and business owners/occupants to confirm the source of drinking water at the property (i.e., municipal water or private well) and to determine if any wells exist at the property. If there are private wells on the properties and the owner is agreeable, GHD will collect samples from the wells for arsenic analysis.

The goal of sampling the private water wells is to collect a groundwater sample that is representative of the aquifer being sampled. All samples will be analyzed for arsenic. Pending permission of the well owners, GHD recommends collecting groundwater samples from the seven private wells located on Westwood Drive, the well on County Road 10 and the well on Bristol Street. The civic address of these properties where GHD has identified private wells are as follows:

- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]

GHD will conduct field activities in accordance with the applicable protocols described in the Field Sampling Plan (FSP) (CRA, October 2008). Similar field procedures are used in private well sampling as are used in monitoring well sampling (including documentation, sample identification, date, time, etc.) however a different well purging protocol is required. Prior to collection of

[2] The water supply at 1402 Bristol is connected to the well on 1400 Bristol Street.

groundwater samples from a private well, the well must be purged to ensure that samples are representative of the formation and not influenced by the standing water in the plumbing system. Purging removes standing water from the well casing, pipes, and pressure or holding tank. Sampling of private wells will utilize the existing plumbing system.

Taps selected for private well sampling will be located as close to the well as possible with a preference for taps located upstream of any treatment systems and, if possible, the pressure tank. GHD will document, with photographs and/or hand drawn sketches, if possible, all water treatment devices in operation at the residence including:

- Water softeners
- Filtration units
- Ultraviolet light
- Reverse osmosis
- Distillers
- Chlorinators

The private well purging and sampling protocol will be as follows:

1. Aerators, strainers, and hose attachments will be removed prior to sampling, if possible.
2. If there is no sink or drain suitable for collecting purge water a hose should be attached to the tap so that purge water can be directed to a suitable location.
3. Open the cold water tap for a period of 15 to 30 minutes (maximum) to allow for the complete purging of the pumping system.
4. Maintain a smooth-flaring water stream at a low to moderate pressure and flow without splashing and do not change the flow rate. It is imperative that the well and plumbing system is not stressed during sampling and flow is maintained at a sustainable rate.
5. Record field measurements of pH, conductivity, and temperature of the purge water every 5 minutes until the readings indicate that stabilization has occurred or until 30 minutes has elapsed, whichever occurs first.
6. Stabilization is achieved when three consecutive readings for temperature and conductivity are within 10 percent of the average of the readings and pH measurements are within 1 unit of the average of the readings.
7. Wear new disposable gloves at each sampling location and following contact with a potential contaminant source.
8. Fill the laboratory-supplied sample bottle directly from the tap.
9. One blind field duplicate sample will be collected for each 10 or fewer investigative samples submitted. The investigative sample bottle and the field duplicate bottle will be filled by alternating between the two bottles with a one third aliquot into each until both bottles are filled.

10. All equipment used during sampling which may have come in contact with potentially contaminated waters will be decontaminated.

11. Full documentation of each private well is required and includes, if possible:

    - Well depth
    - Casing construction and diameter
    - Well installation date
    - Pumping system configuration
    - Piping system construction (e.g., copper, lead-joint, ABS)
    - Presence of treatment devices

12. Obtain the name and mailing address for all private well owners, as well as home and work telephone numbers. This information is required to inform the residence or well owner of the results of the sampling activities.

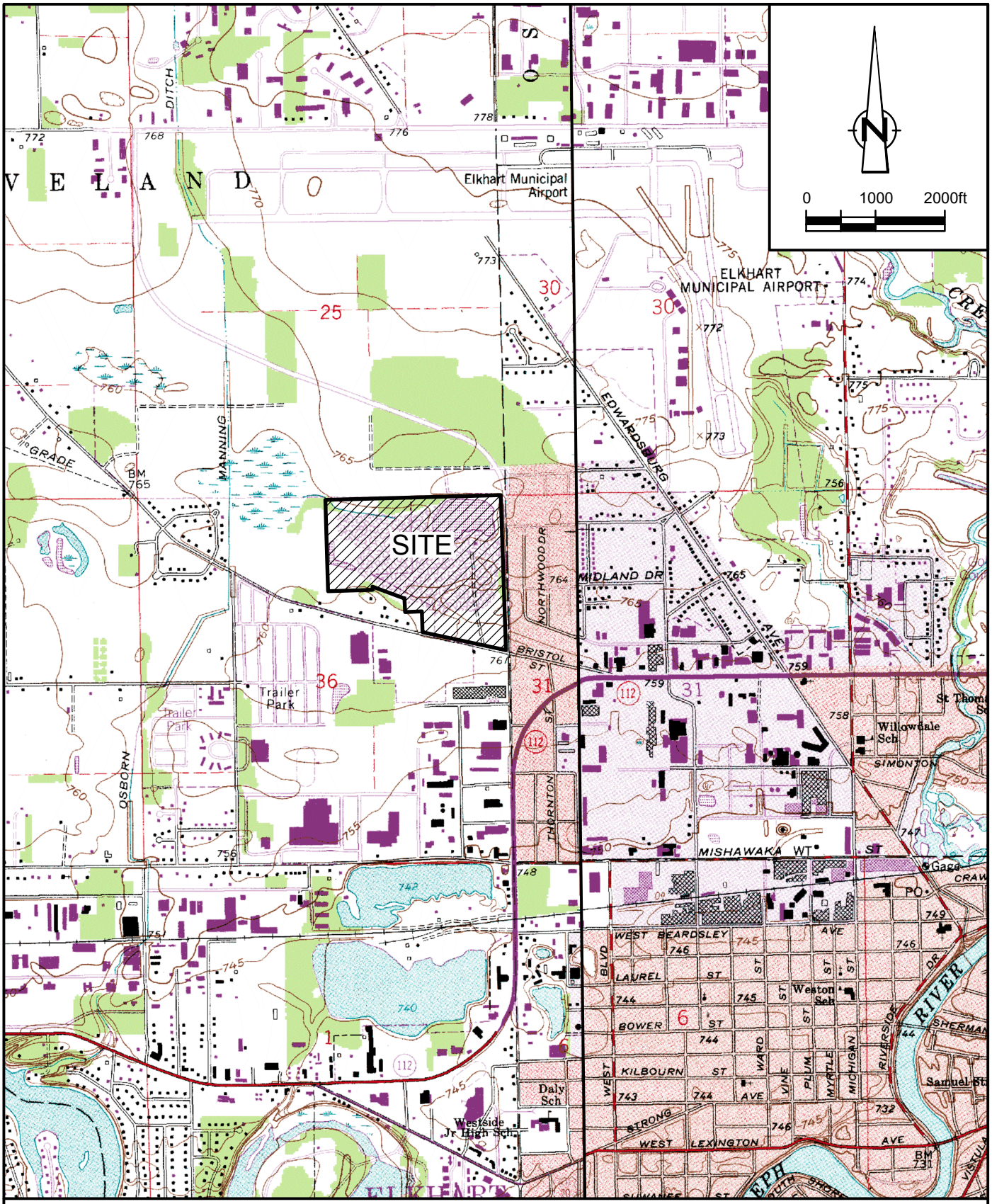
13. Document private well sampling activities in a standard GHD field book or field form.

14. All equipment used during sampling which may have come in contact with potentially contaminated waters will be decontaminated. Nitrile gloves used during the collection of the samples will be disposed of.

15. Samples will be handled as described in the FSP (CRA, October 2008).

5. Schedule and Reporting

GHD will begin sampling the private wells within 60 days of Work Plan approval. A report documenting the work, providing the results of the sample analysis and presenting recommendations based on the results will be submitted 90 days after work begins.



SOURCE: USGS QUADRANGLE MAPS;
ELKHART AND OSCEOLA, INDIANA

figure 1.1

SITE LOCATION MAP
HIMCO SITE
Elkhart, Indiana

GHD

39611-00(043)GN-WA002 APR 18, 2018

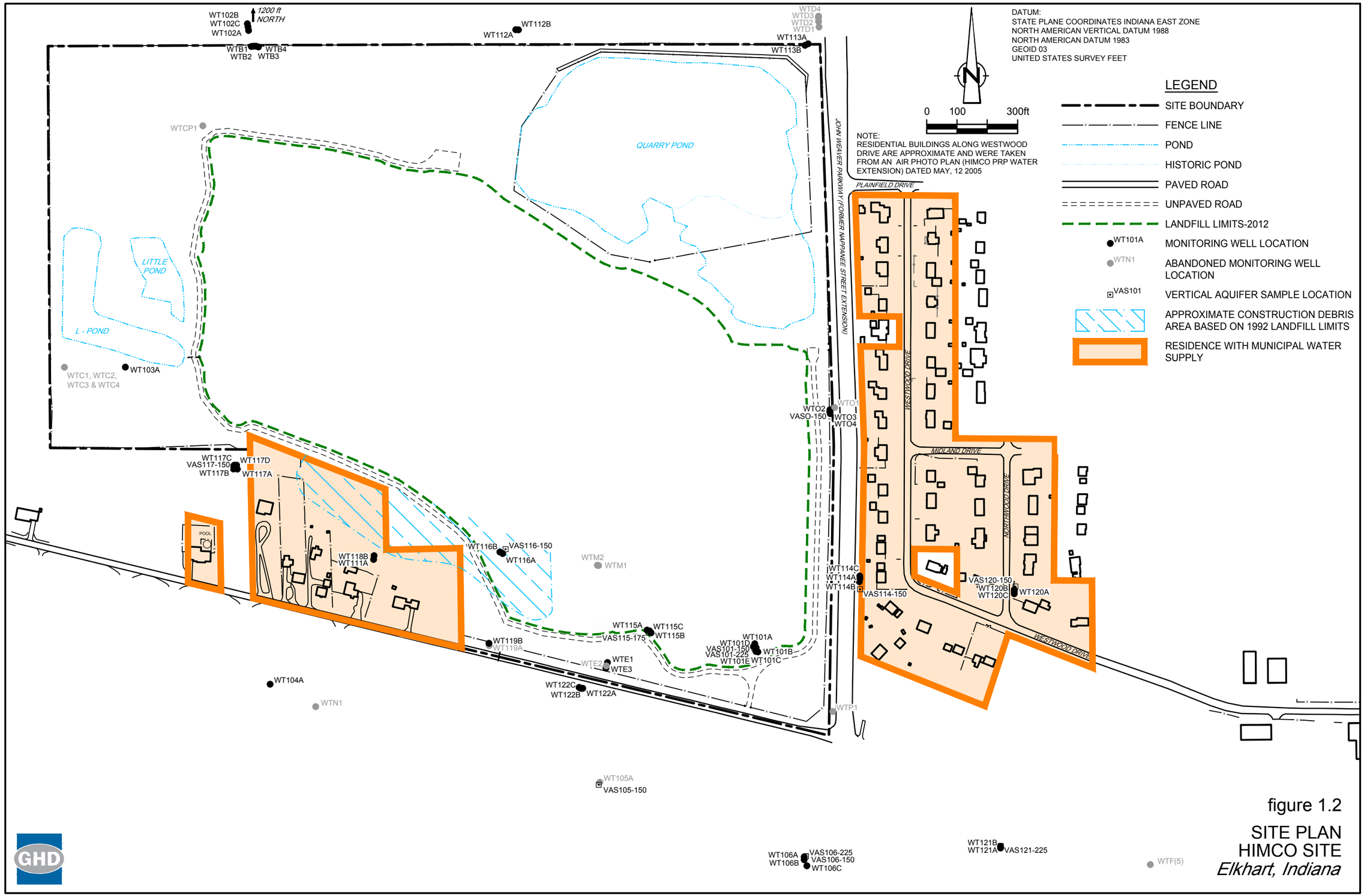


figure 1.2

SITE PLAN
HIMCO SITE
Elkhart, Indiana

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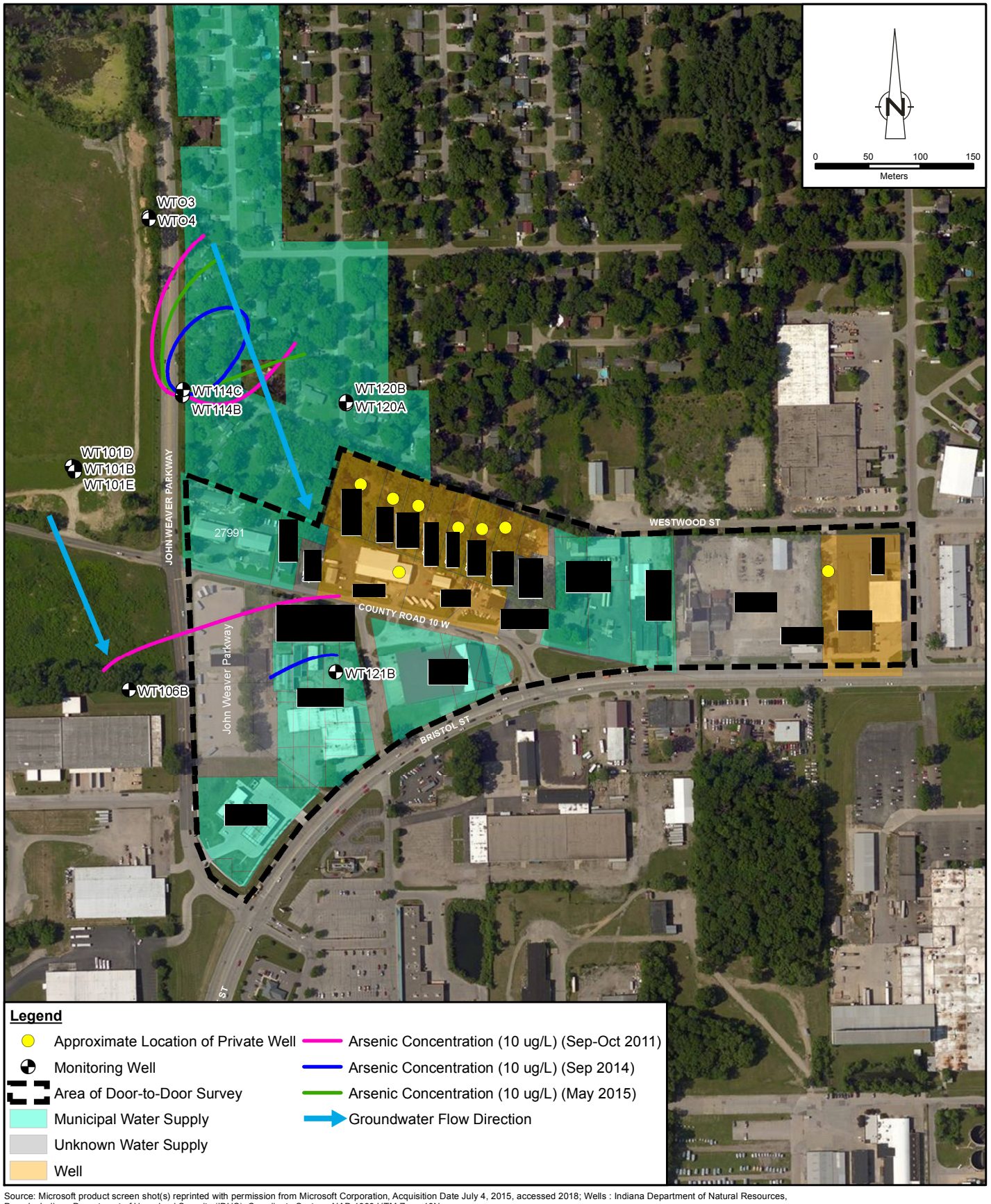

Source: Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation, Acquisition Date July 4, 2015, accessed 2018; Wells : Indiana Department of Natural Resources, Parcels: Indiana Department of Homeland Security (IDHS); Coordinate System: NAD 1983 UTM Zone 16N

HIMCO SITE
ELKHART, INDIANA

039611-00
Apr 24, 2018

DOOR TO DOOR WELL SURVEY

FIGURE 3.1

GIS File: Q:\GIS\PROJECTS\39000s\39611\Layouts\043\039611-00(043)GIS-OT001.mxd

Table 1.1

Door to Door Survey Results
Himco Site
Elkhart, Indiana

Civic Address	Owner	Water Source	Well Location Confirmed	Well Use	Contact Info	Well Record	Comments
[redacted]	Rebecca & Harry Charlston	well	yes				no one home
[redacted]	Steven J Rosenthal	well	yes				no one home
[redacted]	Ammette Collins	well	yes	potable water			owner question reason for survey
[redacted]	William A & Mary A Schott	well	yes				large dog loose on property
[redacted]	Daryl E & Jane E Grant	well	yes	potable water			
27878 Westwood	Paul Lynch Trustee Lynch Joint Trust	well	yes	potable water			owner says house built in 1971; uses water softener
[redacted]	Scott& Cherie Whorwell	well	yes	potable water		X	owner says there is a well record for this well; uses water softener
1704 Bristol	Diesel Tech	city	none observed				training facility
1239 Bristol	Casey's General Store	city	no				gas station and convenience store
John Weaver Parkway		unknown	none observed				property vacant and for sale (574-536-0022)
1510 W Bristol	Sierra Solid Surfaces	city	none observed				counter top manufacturing
1500 Bristol	Aggregate Industries	unknown	none observed			X	gravel, brick and block sales; vacant lot, IDEM well record
1444 Bristol	Coffee & More	unknown	none observed	unknown			closed, vacant
1400 Bristol	Sailor Group LLC	well	yes	non-potable			well on west side of building, non-potable, bottled water for drinking
1402 Bristol	Dynamic Metal	well	yes	non-potable			connected to 1400 Bristol water source, leased storage space
1620 Bristol	Inside Outlet	city	none observed				Al Craft was the owner
27991 County Road 10, Suite 101 - 108	several different businesses	city					
[redacted]	residential rental property		unknown		(574) 536-1135		
[redacted]	Residential property	city	no				Owned by Elkhart RV Sales & Service
27895 County Road 10	Elkhart RV Sales & Service Inc.	well	no, inside building	vehicle washing	(574) 262-9497		spoke with Patrick McCann, owner is Marv Miller
27851 County Road 10	ESM Auto Sales	well	no	vehicle washing			
27809 County Road 10	Franger Gas Company & the Grill Place	city	no				propane sales and service
27934 County Road 10	Hammans (residential & commercial property)	unknown			(574) 536-1135		not occupied

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